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Landscape and Tree Preservation Manual



It's Greener in
Dublin!



CITY OF DUBLIN



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Manual Contents

Planting specifications in this manual represent the accepted industry standards, as of 2003. Please contact the Landscape Contractors Association (1.800.825.5062) for the current *Landscape Specification Guidelines*. The International Society of Arboriculture also publishes acceptable planting specifications (1.217.355.9411). It is recommended that tree care professionals such as nursery technicians or arborists install and maintain plants within the landscape. It should be noted that all plants required under the Dublin Code must be properly installed and remain healthy in perpetuity. Please refer to the planting detail and guidelines for more information.



Important Phone Numbers:

Division of Planning (Landscape Inspector, Landscape Planner) (614)410-4600 Fax-(614)410-4747

Division of Grounds and Facilities (Forester, Horticulturist) (614)410-4700 Fax-(614)761-6512

Additional information including City Code Requirements, Contact Information, and Important Forms available at our website: <http://www.dublin.oh.us>

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Purpose: This manual provides information on plant species that have performed well in Dublin, Ohio. The results from several years of landscape inspections performed by the municipality were used to compile these lists. This manual also describes acceptable installation and maintenance techniques. The purpose of this publication is to promote survivability among landscape plants on non-residential installations. Should there be any questions regarding the landscaping on a property such as installation procedure, plant health, etc; please contact a zoning inspector at the Planning office for consultation (614-410-4600).

The benefits of plants include the promotion of the aesthetic appeal, character and value of the community, as well as a reduction in noise pollution, air pollution, visual pollution, air temperature and light glare. Plants bring natural elements and wildlife habitats into the urban area which increases the quality of life for residents and patrons of the community. Plants are wonderful!

Acceptable Plants



- Most plants in this manual have been selected based on good field performance in the local environment. Several species were added to increase the diversity of landscape plants within Dublin. These lists, and the majority of the manual provide information for non-residential properties. Additional species not included in this manual can be used, subject to approval by City staff.
- Proper performance and conformance of work will be verified by Dublin staff to these standards and the approved landscape plans prior to occupancy. City staff also performs periodic landscape inspections on all non-residential properties to ensure required plants are thriving. Unhealthy or missing plants, as assessed by City staff, need to be replaced no later than the next planting season following an inspection.
- Plant quantities on the site must match the approved plan. Location of plants on site must be similar to that on the plan. Changes to a property under construction must first be submitted to the Building Permit window for review. Please contact the Division of Building Standards at 614-410-4600 for submittal requirements.

Acceptable Evergreens

Poor hedge maintenance



Proper hedge maintenance



Acceptable evergreen plants

- Evergreen plants may be used from the following list when screening vehicular use areas, mechanical units or service structures from adjacent properties or right-of-ways. Alternative cultivars or species may be used, subject to approval by Planning staff. Evergreen shrubs must be a certain height at installation and must reach the height requirement as described in the Landscape Code within four years. Please consult Dublin Code Section 153.133 or contact Planning staff for more information. Trees and shrubs must be properly spaced so that they form a complete, 100 percent opaque hedge within four years. Due to the varying growth rate and ultimate spread of trees and shrubs, spacing should vary accordingly.

Proper vehicular use area screening

Before



After



Acceptable Evergreens

Scientific Name

Common Name

Shrubs:

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|--|------------------------|
| • <i>Buxus microphylla</i> | Little Leaf Boxwood |
| • <i>Buxus sempervirens</i> | Common Boxwood |
| • <i>Chamaecyparis obtusa</i> | Falsecypress |
| • <i>Ilex glabra 'Chamzin'</i> | Nordic Holly |
| • <i>Ilex x meserveae</i> | Blue Holly |
| • <i>Juniperis chinensis (many cultivars)</i> | Chinese Juniper |
| • <i>Juniperis scopulorum (many cultivars)</i> | Rocky Mountain Juniper |
| • <i>Taxus cupsidata 'Capitata'</i> | Pyramidal Japanese Yew |
| • <i>Taxus x media (many cultivars)</i> | Media Yew |
| • <i>Thuja occidentalis (many cultivars)</i> | Dark Green Arborvitae |

Trees:

- | | |
|--------------------------------|------------------|
| • <i>Abies concolor</i> | White Fir |
| • <i>Picea abies</i> | Norway Spruce |
| • <i>Picea glauca</i> | White Spruce |
| • <i>Picea omorika</i> | Serbian Spruce |
| • <i>Picea pungens</i> | Colorado Spruce |
| • <i>Pseudotsuga menziesii</i> | Douglas Fir |
| • <i>Tsuga canadensis</i> | Canadian Hemlock |



Evergreen varieties not listed here can be suggested upon plan review. City staff ultimately has final approval on the use of a species. Evergreen trees can not be used to provide screening for vehicular use areas. They do provide an adequate screen for service structures. If the lower branches of evergreen trees are removed, increasing visibility through the bottom of the plant, evergreen shrubs, opaque wall or fence will need to be installed to reestablish the opacity requirements.

Deciduous tree list

- Listing all acceptable cultivars of each species is difficult due to the continual introduction of new and improved cultivars. Feel free to propose different species or cultivars on the submitted landscape plan to promote increased diversity within the site and throughout the City. All trees planted must have a normal, well-shaped and balanced canopy, free of dead or diseased branches.
- The following list of deciduous trees is subdivided by size: City Code may require a medium or large deciduous tree in some instances and depending on its proposed location. Conversely, the presence of overhead utilities, for instance, may dictate the use of a smaller tree.
- The following trees are merely suggestions for plan submittal. Some trees may be permitted to fulfill tree replacement inches, but not interior landscape requirements. Additionally this list is subject to change without notice.



Large Trees

Scientific name

Acer x freemani
Acer platanoides
Acer saccharum
Betula x 'Avalzam'
Carpinus betulus
Celtis laevigata
Celtis occidentalis 'Prairie Pride'
Ceridiphyllum japonicum
Eucommia ulmoides
Ginkgo biloba
Gleditsia triacanthos var. inermis
Gymnocladus dioicus
Lyquidamber styraciflua
Liriodendron tulipifera
Metasequoia glyptostroboides
Platanus x acerifolia
Quercus acutissima
Quercus bicolor
Quercus coccinea
Quercus imbricaria
Quercus macrocarpa
Quercus rubra
Quercus shumardii
Sophora japonica
Taxodium distichum
Tilia americana
Tilia tomentosa
Ulmus x spp
Zelkova serrata

Common name

Freemani Maple
 Norway Maple
 Sugar Maple
 Avalzam Birch
 European Hornbeam
 Sugar Hackberry
 Prairie Pride Hackberry
 Katsuratree
 Hardy Rubber Tree
 Ginkgo (male forms only please)
 Thornless Honeylocust
 Kentucky Coffeetree
 Sweetgum
 Tuliptree, Yellow Poplar
 Dawn Redwood
 London Planetree
 Sawtooth Oak
 Swamp White Oak
 Scarlet Oak
 Shingle Oak
 Bur Oak
 Red Oak
 Shumard Oak
 Japanese Pagodatree
 Common Baldcypress
 American Linden
 Silver Linden
 Elm species
 Japanese Zelkova



Medium/Small Trees

Medium Trees

Acer campestre
Acer truncatum
Betula platyphylla var. *japonica*
Cladrastis lutea
Corylus colurna
Crataegus phaenopyrum
Halesia carolina
Koelreuteria paniculata
Nyssa sylvatica
Phellodendron amurense
Prunus sargentii

Hedge Maple
 Purpleblow Maple
 Whitespire, Heritage Birch
 American Yellowwood
 Turkish Filbert
 Washington Hawthorn
 Carolina Silverbell
 Goldenraintree
 Black Gum
 Amur Corktree
 Sargent Cherry

Small Trees

Acer buergerianum
Acer ginnala
Acer tataricum
Amelanchier x grandifolia
Amelanchier laevis
Chionanthus virginicus
Cornus kousa
Cornus mas
Crataegus crusgalli var. *inermis*
Crataegus punctata var. *inermis*
Crataegus viridis
Malus species
Ostrya virginiana
Prunus serrulata
Prunus virginiana
Syringa reticulata

Trident Maple
 Amur Maple
 Tatarian Maple
 Apple Serviceberry
 Allegheny Serviceberry
 White Fringetree
 Kousa Dogwood

Corneliancherry Dogwood
 Thorneless Hawthorn
 ‘Ohio Pioneer’ Hawthorn
 ‘Winter King’ Hawthorn
 Crabapple
 American Hophornbeam
 ‘Kwanzan’ Cherry
 ‘Canada Red Select’ or ‘Schubert’ Cherry
 Japanese Tree Lilac



Large Trees

(50-Feet or taller)

Acer x fremanii

Fremanii Maple (Red/Silver Maple Cross)

Culture: very tolerant of soil conditions, tolerant of ozone and sulfur dioxide, prefers moist soils

Disease & Insects: can get leaf galls, some scorch during sunny and high temperatures,

Habit: upright oval to rounded; 50' x 40'

Leaf Color: medium to dark green above, gray/silver underneath; great orange-red fall color

Acer platanoides

Norway Maple

Bark: grayish black with ridges and shallow furrows, forms a interesting textural effect

Culture: adapted to extremes in soils, tolerates pollution and hot, dry conditions

Disease & Insects: Verticillium wilt, anthracnose, some leaf scorch

Flowers: yellow to green-yellow, April, quite effective, one of the most showy maples

Habit: rounded, symmetrical crown, with very dense foliage; 50' x 40'

Leaf Color: dark green in summer; showy yellow in fall

Acer saccharum (irrigated or open areas) Sugar Maple

Bark: smooth gray-brown, becoming deeply furrowed, can become scaly

Culture: prefers well-drained soil, pH adaptable, not extremely air pollution tolerant

Disease & Insects: leaf scorch, Verticillium wilt

Habit: upright oval to rounded; 50' x 50'

Leaf Color: medium/dark green in summer; brilliant yellow, orange, and some red in fall

Betula x 'Avalzam'

Avalzam Birch

Bark: grayish with corky warts or ridges

Culture: grows in a wide range of soils, pH adaptable, full sun, tolerates urban conditions/pollution

Disease & Insects: none serious

Fruit: fleshy, yellow, orange-red to dark purple, September to October

Habit: oval; 50' x 40'

Leaf Color: thick, leathery, dark green; yellow fall color

Carpinus betulus

European Hornbeam

Bark: smooth, steel gray, fluted

Culture: tolerant of soil conditions, full sun to light shade, partially tolerant of difficult conditions

Flowers: 1 ½" long, April

Fruit: small nutlet

Habit: oval rounded to rounded; 50' x 30'

Leaf Color: dark green in summer; yellowish in fall

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Celtis laevigata

Sugar Hackberry

Bark: generally smooth, usually devoid of wart-like projections associated with common hackberry

Culture: tolerates wet, clay soils, tolerant of urban conditions, *resistant to witches' broom

Fruit: orange-red to blue-black, relished by birds

Habit: rounded to broad-rounded with spreading, pendulous branches; 50'x 50'

Leaf Color: dark green above, paler underneath; good yellow fall color

Celtis occidentalis 'Prairie Pride'

Prairie Pride Hackberry

Bark: grayish with corky warts or ridges

Culture: grows in a wide range of soils, pH adaptable, full sun, tolerates urban conditions and pollution

Disease & Insects: none serious, resistant to witches' broom

Fruit: fleshy, yellow, orange-red to dark purple, September to October

Habit: oval; 50'x 40'

Leaf Color: thick, leathery, dark green; yellow fall color



Cercidiphyllum japonicum

Katsuratree

Bark: brown, slightly shaggy on older trees

Culture: somewhat difficult to transplant, pH adaptable, full sun, supplemental water during drought

Fruit: small, 3/4" long pods, September to October

Habit: pyramidal in youth, pyramidal to spreading on older trees; 50'x 30'

Leaf Color: emerging red-purple, blue-green in summer; yellow to apricot-orange fall color

Eucommia ulmoides

Hardy Rubber Tree

Bark: gray-brown, ridged and furrowed, attractive

Culture: transplants readily, very soil tolerant, drought resistant, pH adaptable, full sun

Fruit: capsule-like, 1 1/2" long

Habit: rounded to broad spreading; 50'x 50'

Leaf Color: dark green, handsome in summer; no spectacular fall color

Fraxinus americana

White Ash

NOT TO BE PLANTED IN THE CITY OF DUBLIN UNTIL EMERALD ASH BORER IS ERADICATED AND DIVISION OF FORESTRY RECOMMENDS REINTRODUCTION

Bark: ash gray to gray-brown, furrowed into diamond-shaped areas

Culture: easily transplanted, wide range of soils, pH adaptable, full sun

Diseases and Insects: leaf rust, leaf spots, cankers, emerald ash borer, other borers, fall webworm;

Flowers: appearing in panicles before the leaves, April

Habit: upright oval to rounded; 50'x 30'

Fraxinus pennsylvanica

Green Ash

NOT TO BE PLANTED IN THE CITY OF DUBLIN UNTIL EMERALD ASH BORER IS ERADICATED AND DIVISION OF FORESTRY RECOMMENDS REINTRODUCTION

Bark: similar to White Ash

Culture: transplants readily, tolerates high pH, salt, and drought;

Diseases and Insects: leaf rust, leaf spots, cankers, ash borer, fall webworm;

Habit: upright-spreading; 50' x 30'

Leaf Color: shiny medium in summer; showy yellow fall color

Ginkgo biloba

Ginkgo (plant male forms only)

Bark: gray-brown ridges with darker furrows

Culture: transplants easily, withstands almost any situation, full sun, very pH adaptable

Diseases and Insects: extremely free of pests

Fruit: *Only females get fruit. Fleshy, putrid covering, surrounding a nut, about ¾", edible

Habit: usually pyramidal, wide spreading, wide variation; 50' x 30'

Leaf Color: bright green in summer; beautiful, showy rich yellow fall color

Gleditsia triacanthos var. inermis

Thornless Honeylocust

Bark: gray-brown, long narrow scaly ridges; somewhat smooth when young

Culture: readily transplanted, wide range of conditions, drought tolerant, salt tolerant, full sun

Diseases and Insects: leaf spot, cankers, witches' broom (not serious), webworm and spider mites

Habit: usually short-trunked with a rather open-spreading crown; 50' x 30'

Leaf Color: bright green in summer; yellow fall color

Gymnocladus dioica

Kentucky Coffeetree

Bark: rough, hard, thin, firm and scaly ridges; very unique bark pattern

Culture: adaptable to different soils, drought, and city conditions, full sun; a good native tree

Fruit: red-brown leathery pod, 5" to 10" long, October

Habit: usually vertically ascending branches, forming a narrow, oval crown; 60' x 40'

Leaf Color: pink to purple tinged, changing to green; yellow fall color

Liquidambar styraciflua

Sweetgum

Bark: gray-brown to silver, deeply furrowed into narrow, rounded ridges

Culture: full sun, takes awhile to re-establish, does fairly well in urban settings

Diseases and Insects: leaf spots, scale, possibly chlorosis in poor soils

Fruit: capsules, 1" to 1 ½" diameter, persisting into winter; fruits fall over winter

Habit: upright pyramidal with a neat outline; usually a strong, central leader; 60' x 40'

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Liriodendron tulipifera

Tuliptree, Yellow Poplar

Bark: grayish-brown, furrowed into close, interlacing, rounded to flat ridges

Culture: moist, well-drained soil, full sun, pH adaptable,

Diseases and Insects: cankers, leaf spots, Verticillium wilt, aphids, leaf scorch

Flowers: similar to a tulip flower – 6 green-yellow petals, interior is orange, May to early June

Fruit: cone-like aggregate of samaras, 2” to 3” long, October, persisting into winter

Habit: pyramidal in youth maturing to oval-rounded; 70’x35’

Leaf Color: tulip-shaped, bright green in summer; golden yellow to yellow fall color

Metasequoia glyptostroboides

Dawn Redwood (Deciduous)

Bark: reddish-brown when young, becoming darker; fissured and exfoliating

Culture: easy to transplant, more tolerant of chalky soils than Baldcypress, full sun

Flowers: up to 12” long

Habit: pyramidal, developing a broad-rounded crown with age; 50’x25’

Leaf Color: bright green above, changing to brown; can be excellent orange to red-brown fall color.

Platanus x acerifolia

London Planetree

Bark: beautiful olive-green to creamy exfoliating strips

Culture: easily transplanted, adaptable to a wide range of soils, pH adaptable, pollution tolerant

Diseases and Insects: anthracnose (usually not serious), frost cracking

Fruit: 1” diameter-ball, October

Habit: pyramidal in youth, developing into a large, open, wide-spreading crown; 50’x35’

Leaf Color: medium to dark green in summer; yellow-brown in fall

Quercus acutissima

Sawtooth Oak

Bark: deeply ridged-furrowed, corky, ash brown on older trunks

Culture: easily grown, quite adaptable, transplants okay; does well here in Dublin

Fruit: acorn, 1” long

Habit: dense, broad pyramidal in youth, oval-rounded to broad-rounded in maturity; 50’x35’

Leaf Color: dark green in summer; good yellow to golden brown fall color

Quercus bicolor

Swamp White Oak

Bark: flaky, grayish brown, with some white mixed in

Culture: fairly easy to transplant, full sun, good drought resistance

Diseases and Insects: anthracnose, bacterial leaf scorch, galls, gypsy moth, none real serious

Fruit: acorn, 1” long

Habit: broad, round-topped crown; 50’x 40’

Leaf Color: dark green in summer; yellow-bronze fall color

Quercus coccinea

Scarlet Oak

Bark: grayish brown, thin for oak, relatively smooth

Culture: less tolerant of growing conditions than Red Oak, likes drier sites

Fruit: acorn, ½” to 1” long, oval, red-brown

Habit: similar to Pin Oak, but more rounded with maturity; 50’x 40’

Leaf Color: glossy green in summer; scarlet fall color

Quercus imbricaria

Shingle Oak

Bark: gray-brown, with broad, low ridges

Culture: easier to transplant than most oaks, full sun, tolerant of dry soils

Fruit: Acorn, ½ ” long, red-brown scales on cap

Habit: pyramidal to upright-oval; 50’x 35’

Leaf Color: dark green in summer; yellow to red fall color



Quercus macrocarpa

Bur Oak

Bark: dark gray to gray-brown, rough, with deep furrows

Culture: somewhat difficult to transplant, soil adaptable, tolerant of urban conditions, slow grower

Fruit: acorn, ¾” to 1 ½ ” long, with a hairy cup

Habit: weakly pyramidal to oval form; 60’x60’

Leaf Color: dark green in summer; dull yellow to yellow-brown fall color

Quercus rubra

N. Red Oak

Bark: flat gray with ridged and furrowed areas, becoming darker

Culture: transplants readily, prefers well-drained soil, acidic conditions

Fruit: acorn, ¾” to 1” long, brown with gray streaks

Habit: rounded, symmetrical; 60’x 60’

Leaf Color: dark green in summer; red to bright red fall color

Quercus shumardii

Shumard Oak

Bark: grayish brown, thin, narrow ridges with age

Culture: relatively easy to transplant, good drought tolerance

Habit: broad-headed tree, developing into a wide spread; 50’x 40’

Leaf Color: leathery dark green in summer; russet-red fall color



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Sophora japonica

Japanese Pagodatree

Bark: pale grayish brown in color

Culture: prefers well-drained soil, withstands heat and drought, need to train/prune for central leader

Diseases and Insects: twig blight, powdery mildew, nothing real serious

Flowers: white, mildly fragrant, 6" to 12" panicles, July to September-may attract bees

Fruit: bright green-yellow pod, 3" to 8" long, October

Habit: upright spreading, broadly rounded; 50' x 50'

Leaf Color: medium green in summer; occasional muted-yellow fall color

Taxodium distichum

Common Baldcypress (Deciduous)

Bark: reddish brown, fibrous, exfoliating

Culture: very adaptable to both wet and dry conditions, full sun, good drainage preferred

Diseases and Insects: twig blight, small cankers, cypress moth

Flowers: 4" to 5" long panicles, March to April

Fruit: cones, globular, ½" to 1" long, green to purple, resinous

Habit: pyramidal, lofty; 60' x 30'

Leaf Color: bright yellow-green in spring, darkens in summer; russet, soft brown fall color

Tilia americana

American Linden

Bark: gray to brown, many long, narrow, flat-topped scaly ridges

Culture: transplants readily, pH adaptable, full sun to partial shade, adaptable to different soils

Diseases and Insects: leaf blight, canker, Japanese beetle, thrips, galls

Flowers: pale yellow, ½" wide, fragrant, mid to late June

Fruit: nut-like structure, ½" long

Habit: tall, stately tree, with low, spreading branches, somewhat rounded crown; 60' x 35'

Leaf Color: dark green above, paler underneath; pale yellow fall color

Tilia tomentosa

Silver Linden

Bark: light gray and smooth, becoming gray-brown, ridged and furrowed

Culture: : transplants readily, pH adaptable, full sun to partial shade, adaptable to different soils

Flowers: yellowish-white, fragrant, late June to early July

Fruit: egg-shaped, 3/8" long

Habit: pyramidal when young, oval with age; 50' x 40'

Leaf Color: dark green above, silvery-fuzz below; decent yellow fall color

Ulmus x spp.

Elm Species (general characteristics)

Bark: dark gray, with broad, deep, intersecting ridges, sometimes scaly

Culture: easily transplanted, tolerant of a wide variety of conditions, good salt/pH tolerance

Diseases and Insects: use cultivars resistant to Dutch Elm Disease

Flowers: green to greenish red, March to April; luster's August to September

Fruit: samara, ½" long May through June; September to October

Habit: vase-shaped form, widely spreading form, and narrow forms; 60'x 45'

Leaf Color: dark green in summer; yellow in fall

Zelkova serrata

Japanese Zelkova

Bark: cherry-like in youth, red-brown, gray-brown with age

Culture: transplants readily, pH adaptable, wind and drought tolerant, decent pollution tolerance

Diseases and Insects: elm leaf beetle, and Japanese beetle

Fruit: small, kidney bean-shaped drupe, ¼" across, fall

Habit: low-branched, vase-shaped in youth, similar form with ascending branches in maturity; 60'x 40'

Leaf Color: dark green in summer; yellow-orange-brown fall color



Medium Trees

(30-50-feet tall)

Acer campestre

Hedge Maple

Bark: gray-black, lightly ridged and furrowed

Culture: readily transplanted, extremely adaptable, tolerant of dry soils and compaction, full sun

Fruit: samara, 1 ¼" to 1 ¾" long, horizontally spreading

Habit: usually rounded and dense; 35' x 30'

Leaf Color: dark green in summer; yellow-green to yellow fall color

Acer truncatum

Purpleblow, Shantung Maple

Bark: often tinged with purple when young, older wood is gray-brown, rough and fissured

Culture: hardy tree, drought tolerant

Flowers: greenish-yellow, May, can be spectacular

Fruit: samara, 1 ¼" to 1 ½" long

Habit: small, rounded, with a regular branching pattern; 35' x 25'

Leaf Color: red purple when emerging, dark, glossy green in summer; yellow-orange-red fall color

Betula platphylla var. japonica

Heritage/Whitespire Birch

Bark: chalky white, non-exfoliating bark

Culture: similar to other Birches; heat tolerant; tolerates wide range of growing conditions

Diseases and Insects: resistant to bronze birch borer

Habit: narrow pyramidal to oval; 30' x 15'

Leaf Color: dark green to yellow fall color

Cladrastis lutea

American Yellowwood

Bark: very smooth, gray and Beech-like, heartwood is yellowish

Culture: tolerates high pH, full sun, can fix atmospheric nitrogen

Flowers: white, fragrant, 1 ¼" long, April to early May

Fruit: pod, brown, October 2 ½" to 4" long

Habit: broad, rounded crown; 35' x 35'

Leaf Color: opening bright yellowish green, turning bright green in summer; golden yellow fall color



Corylus colurna

Turkish Filbert

Bark: pale brown to gray brown, older bark is flaky

Culture: thrives in hot summers and cold winters, tolerant of adverse conditions, full sun, pH adaptable

Flowers: catkins can be appealing, March

Fruit: nut, ½" to 5/8" diameter, September to October

Habit: broad pyramidal, very stately; 40' x 25'

Leaf Color: dark green in summer; yellow to purple fall color

Crataegus phaenopyrum

Washington Hawthorn

Bark: mottled gray bark exfoliating to show orange inner bark

Culture: transplants readily, thorny tree should not be located in heavy foot-traffic areas

Diseases and Insects: cedar hawthorn rust, fireblight, powdery mildew

Flowers: white, ½” diameter in clusters in early June

Fruit: bright, glossy red, ¼” diameter persisting all winter

Habit: broadly oval, rounded; 25’x 25’

Leaf Color: new growth is reddish purple changing to dark green; orange, red and purple in fall

Halesia carolina

Carolina Silverbell

Bark: gray to brown to black, with flat, somewhat lustrous ridges

Culture: transplants readily from container stock, well-drained, moist soil, full sun to partial shade

Diseases and Insects: exceptionally pest resistant

Flowers: white, bell-shaped, ½” to ¾” long, April to mid-May

Fruit: 1” to 1 ½” long, effective in September and early fall

Habit: narrow head and ascending branches, forming a rounded crown; 35’x25’

Leaf Color: dark yellow green in summer; yellow to yellow-green fall color

Koelreuteria paniculata

Goldenraintree

Bark: light gray-brown, ridged and furrowed with age

Culture: transplants well, adaptable to a wide range of soils, *drought, wind, heat, pollution tolerant

Flowers: yellow, ½” wide, very showy, July

Fruit: 3-valved capsule, 1 ½ to 2” long, changing from green to yellow to brown, August to October

Habit: beautiful dense tree, rounded, branches spreading and ascending; 35’x 35’

Leaf Color: purplish red initially, changing to a golden yellow in summer; good yellow fall color

Nyssa sylvatica

Black Gum, Tupelo

Bark: dark gray, brown, black, thick irregular ridges, alligator hide-like appearance

Culture: somewhat difficult to transplant, high pH intolerant, full sun to partial shade

Disease and Insects: cankers, leaf spots, nothing real serious

Fruit: oblong drupe, ½” long, bluish-black, late September to early October, food for wildlife

Habit: beautiful native tree, pyramidal in youth, numerous spreading branches when older; 40’x 25’

Leaf Color: lustrous dark green in summer; orange to bright scarlet to purple fall color

Phellodendron amurense

Amur corktree

Bark: ridged and furrowed with a cork-like pattern, gray-brown

Culture: transplants readily, adaptable to many soils, drought and pollution tolerant, full sun

Flowers: yellowish-green, late May to early June

Fruit: black, 1/2" diameter, October into winter

Habit: broad spreading tree, open, rounded crown; 35' x 50'

Leaf Color: deep, lustrous green in summer; yellow to bronzy yellow fall color

Prunus sargentii

Sargent Cherry

Bark: rich, polished reddish to chestnut brown

Culture: good test plot evaluations

Flowers: pink, 1 1/2" across, late April to early May

Fruit: 1/3" long, purple-black, June-July

Habit: upright rounded; 40' x 40'

Leaf Color: shiny dark green in summer; bronze to red fall color



Pyrus calleryana

Pear (general characteristics)

Bark: lustrous brown in youth, ridged and furrowed, gray-brown in maturity

Culture: easy to transplant, very adaptable, cold and heat tolerant, full sun,

Flowers: attractive, white

Fruit: small, round, 1/2" across

Habit: pyramidal to broad-pyramidal; choose trees with horizontal branching and good crotch angles; 35' x 20'

Leaf Color: lustrous green with a wavy edge; great yellow/red/purple fall color

Acceptable species: Aristocrat, Autumn Blaze, Redspire (Bradford pears can not be used to fulfill a tree planting requirement due to the narrow crotch angles)



Small Trees

(10-30 feet tall)

Acer buergerianum

Trident Maple

Bark: gray-brown-orange on young trees, develops into platy, scaly character; winter interest

Culture: transplants readily, good drought resistance, full sun, many kudos

Habit: distinctly oval-rounded to rounded; 30' x 30'

Leaf Color: new growth bronze to purple, glossy dark green in summer; yellow, orange, red fall color

Acer ginnala

Amur Maple

Bark: gray brown, smooth

Culture: easy to transplant, quite adaptable to soils,

pH adaptable, full sun

Flowers: yellowish-white, fragrant, April to May

Habit: rounded outline, shape can be variable; 20' x 25'

Leaf Color: glossy dark green; shades of yellow and red fall color



Acer tataricum

Tatarian Maple

Culture: tolerant of adverse conditions, more high-pH tolerant

Flowers: green-white, April to May

Habit: rounded to wide-spreading; 20' x 20'

Leaf Color: medium green in summer; yellow, red, reddish-brown fall color

Amelanchier x grandiflora

Apple Serviceberry

Bark: gray, smooth, ornamental

Culture: full sun to partial shade, adaptable to different soils-prefers moist, well-drained soil

Disease and Insects: rust, powdery mildew, leaf blight, fireblight, nothing serious

Flowers: white, fragrant, ornamental

Fruit: berry-like pome, sweet, edible, good for wildlife

Habit: rounded crown; 20' x 20'

Leaf Color: young leaves are purplish and pubescent; yellow, apricot-orange, red fall color

Amelanchier laevis

Allegheny Serviceberry

Bark: gray, smooth

Flowers: similar to above, mid-April into May

Fruit: sweet, edible, good for wildlife

Habit: upright, oval; 25' x 15'

Leaf Color: purple bronze when emerging; same fall color as above

Chionanthus virginicus

White Fringetree

Bark: gray, smooth, ridged and furrowed with age

Culture: moist soils, but is adaptable; full sun to partial shade

Flowers: white, slightly fragrant, May to early June

Fruit: dark blue, fleshy egg-shaped, ½” long, August to September

Habit: tree form – spreading, open; 15’ x 15’

Leaf Color: medium to dark green in summer; yellow-green to brown fall color, can get golden yellow

Cornus kousa

Kousa Dogwood

Bark: gray-tan-rich brown with exfoliating bark

Culture: well-drained, full sun to partial shade

Flowers: creamy white, June

Fruit: pinkish-red to red, ½” to 1” diameter, late August to October

Habit: vase-shaped in youth, rounded with age; 20’ x 20’

Leaf Color: dark green, almost blue-green in summer; red-purple to scarlet fall color

Cornus mas

Corneliancherry Dogwood

Bark: exfoliating, scaly, flaky, gray-brown to rich brown, showy

Culture: transplants well, soil types adaptable, sun to partial shade, durable

Flowers: yellow, March

Fruit: oblong, 5/8” long, bright cherry red, July

Habit: oval-rounded; 20’ x 20’

Leaf Color: dark green, attractive summer foliage; purple-red fall color



Crataegus crusgalli var. inermis

Thornless Hawthorn

Bark: gray-brown, exfoliating

Culture: tolerant of many soils, pH adaptable, full sun

Disease and Insects: fireblight, leaf blight, rusts, aphids, plant hopper

Flowers: ½” diameter, white, May

Fruit: ½” diameter, September to October

Habit: broad-rounded; 15’ x 12’

Leaf Color: lustrous dark green in summer; bronze-red to purplish-red fall color

Crataegus species (Winter king, Ohio pioneer)

Hawthorn

Bark: good winter interest, exfoliating creamy, brown, gray, exposing orange-brown trunk

Flowers: white, ¾” diameter, spring

Fruit: ½” diameter, red, good winter interest and food for birds

Habit: rounded, vase-shaped branching structure; 25’ x 20’

Leaf Color: lustrous medium green in summer; purple and scarlet fall color

Malus species

Crabapple

New cultivars of crabapple trees are being developed too often to accurately list all acceptable plants, here are a few. Additional selections are listed on the following page. Base selection on resistance to pests.

Malus ‘Adirondack’

Adirondack Crabapple

Bark: *generally the same for all Crabapples - somewhat smooth, dark brown, some ridges

Culture: *generally the same for all Crabapples – quite adaptable, hardy, usually good salt tolerance, sun

Diseases and Insects: *generally the same – picked for good to exceptional fireblight and apple scab resistance

Flowers: red buds, large white flowers

Fruit: red to red-orange, ½” diameter, into December

Habit: columnar, oval; 10’ x 6’

Leaf Color: dark green in summer

Malus ‘Prairifire’

Prairifire Crabapple

Bark: glossy dark red-brown bark, with prominent lenticels

Flowers: red buds, dark purplish-red flowers

Fruit: dark red-purple, ½” diameter

Habit: upright when young, later becoming rounded; 20’ x 20’



Malus

Crabapple

Other suitable crabapples include: Adams, Adirondack, Beverly, Bob White, Callaway, Donald Wyman, Harvest Gold, Indian Summer, Profusion, Purple Prince, Red Splendor, Robinson, Sentinel, Winter Gold

Ostrya virginiana

American Hophornbeam

Bark: gray-brown with exfoliating bark in longitudinal strips
Culture: plant in spring, well-drained soil, somewhat slow to establish, no serious pests
Flowers: visible throughout winter (male catkins) or in spring (female)
Habit: horizontal, drooping habit; pyramidal; 30' x 20'
Leaf Color: dark green in summer, yellow in fall

Prunus serrulata 'Kwanzan'

Kwanzan Cherry

Culture: may be short lived (20 years)
Flowers: deep pink, double flowers in spring
Habit: oval crown; 30' x 30'
Leaf Color: new leaves are bronze, may turn a bronze-red in fall

Prunus virginiana

Cherry

–'Canada Red Select', 'Schubert'

Culture: fast grower, well-drained soil is best
Flowers: 3-6" white racemes in spring
Disease and Insects: keep trees vigorous, some pests (borers, canker)
Habit: oval-rounded or pyramidal habit; 25' x 20'
Leaf Color: green at first, then changing to reddish-purple

Syringa reticulata

Japanese Tree Lilac

Bark: cherry-like, reddish-brown, gray, scaly older trunks
Culture: easily transplanted, pH adaptable, full sun
Diseases and Insects: bacterial blight, leaf spots, powdery mildew, frost injury if late spring frost
Flowers: creamy white, fragrant, early to mid June
Habit: oval to rounded crown; 25' x 20'
Leaf Color: dark green in summer; no spectacular fall color

Landscape Specifications

CALL OUPS
At least 48 hours
before digging.
1.800.362.2764

Pre-planting Practices

- If soil compaction occurs in planting areas during construction, tilling or other means to loosen the soil should be performed. Extra efforts to ensure plant survival should be specified on the plans, including fencing-off planting areas during construction, bidding additional waterings during the first year, soil analysis, etc. The landscape contractor should bring unfavorable situations to the general contractor's and city landscape inspector's attention.
- Debris must be removed prior to installation i.e. wood, trash and rocks greater than 1" diameter. All grass and weeds must be removed from the planting bed prior to installation.
- Drainage should be tested by filling a hole with water and determining if water drains at a rate greater than 1" per hour.
- A soil test should always be performed prior to installation. This a very inexpensive test in relation to the cost of the landscaping, and it could detect some very significant results that need to be addressed.
- Methods should be employed to match the optimal pH levels of the specified plants in the landscape.



Tree and Shrub Planting Guidelines/Tips

- Keep in mind: if a balled and burlapped tree is being planted, that tree's root system has probably been reduced by 90-95 percent of its original size during transplanting. The tree will remain under stress until it's established and all efforts to keep stress to a minimum should be employed, i.e., proper pruning, mulching, and watering.
- The ideal time to plant trees and shrubs is during the dormant season, such as late fall or early spring.
- Dig a shallow, broad planting hole. A healthy tree planted in a poorly-prepared hole will not flourish. If the hole is dug using an auger, it may take two passes to get the hole two to three times wider than the root ball.
- Trees and shrubs must be well adapted to climatic conditions comparable to Dublin for at least two years prior to planting in Dublin. The contractor may have to make available all shipping tags during the landscape inspection.
- To avoid any chance of root burn, it is not recommended to fertilize the backfill. However, due to infertile soils, subsequent top dressings of fertilization should take place, after one full year, in early spring or fall, preferably following a soil test and diagnosis of the plant's health.
- Many recent problems are the result of the root systems of trees buried below grade at planting. The top of the first lateral root should be visible after planting. Trees will need to be replanted properly if a problem is identified during an inspection.
- Prior to planting trees in the right-of-way (street trees), the City Forester must be notified so that locations and species can be verified. (614-410-4701)

Proper tree planting



Poor tree planting



- Due to slow degradation, remove all rope from around the base of the tree, and all burlap and wire (basket) from the top 1/3 of the root ball.
- Stake only those trees with the greatest potential of toppling. Stakes and guying must be removed within one year of planting.
- Most trees should not have their trunks wrapped. It has not yet been proven that wrapping reduces sunscald or frost cracks.
- Plants must be watered-in at installation to reduce air pockets, and not stomped or compacted with a foot.
- Plants should not be allowed to dry out during the first year of establishment in order to increase survivability. Give plants about 1" of water per week. Adequate watering (8"-deep) during extended periods of drought should be performed as needed throughout the plant's lifetime. Special bags that hold gallons of water over the root ball are useful and reduce manual watering time, though it's hard to beat a well-maintained irrigation system.

Mulching Practices/Tips

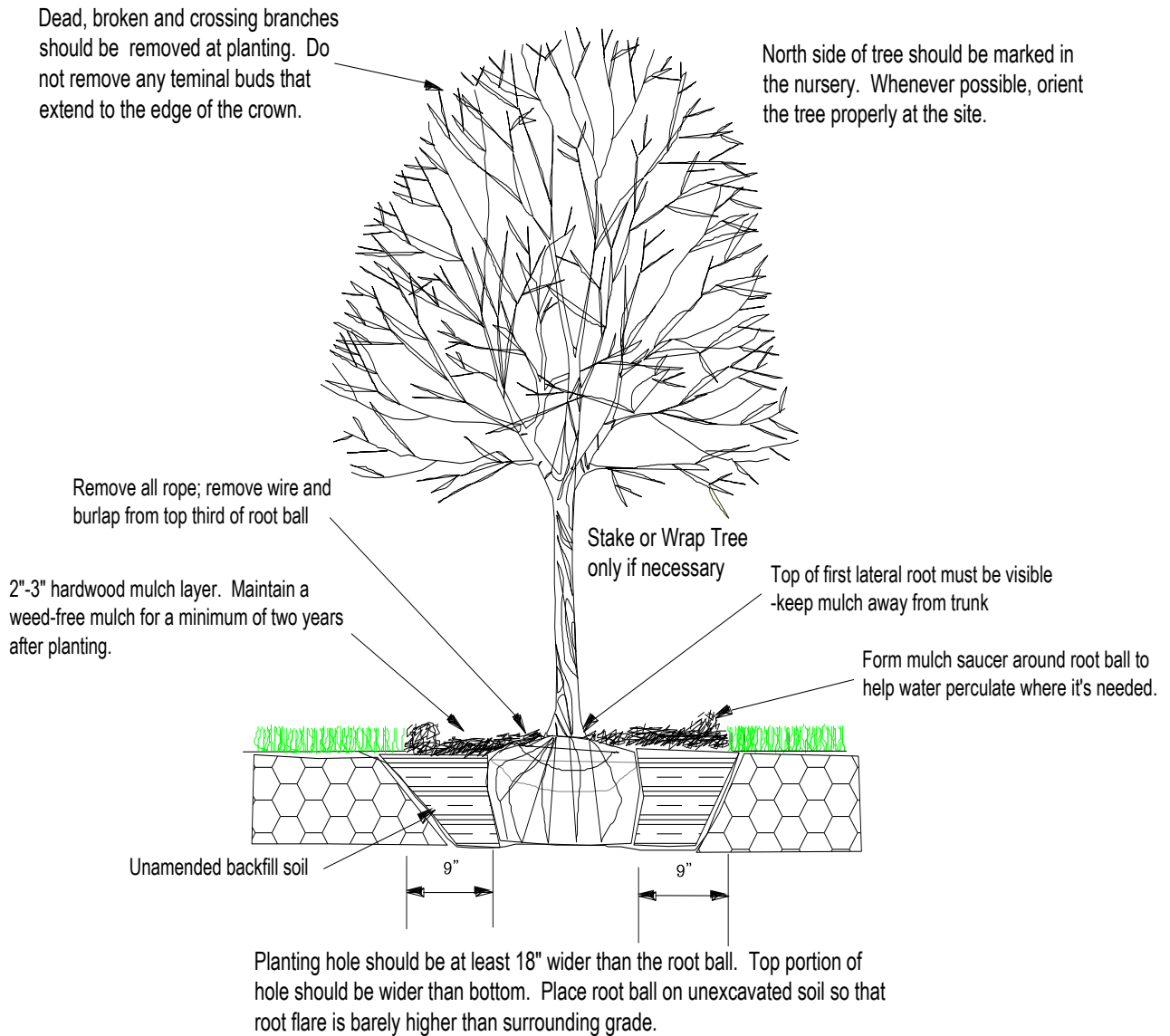
- **Keep mulch a few inches from tree trunks and shrub stems.** Mulch covered trunks and stems may be prone to disease and rot.
- Mulching properly can improve soil fertility, soil aeration, help conserve soil moisture and moderate soil temperatures.
- Mulch levels should not exceed 3 inches. Levels greater than three inches may not allow for necessary soil warming in the spring.
- As organic mulch decomposes, mulch should be added to achieve the optimum level of 2-3 inches.
- Prior to the addition of mulch, the existing layer of mulch should be raked and broken-up to prevent the creation of an impervious layer.
- Soil/grass clods shall be disposed of properly and not redistributed on top of the root system of the plant. No soil should ever be placed on top of the root ball. Planting beds must be kept weed-free.



No Mulch Volcanoes!!

Top of first lateral root

Planting Detail



Prohibited Trees

These trees, for a variety of reasons, cannot be used to meet Code requirements. Trees listed below are not suitable due to weak wood, messy fruit, invasive root systems, pest problems and other reasons.

Scientific Name

Common Name

- | | |
|--------------------------------------|--------------------------|
| • <i>Acer negundo</i> | Box Elder |
| • <i>Acer saccharinum</i> | Silver Maple |
| • <i>Ailanthun altissima</i> | Tree of Heaven |
| • <i>Betula papyrifera</i> | Paper Birch |
| • <i>Betula pendula</i> | European White Birch |
| • <i>Catalpa speciosa</i> | Northern Catalpa |
| • <i>Ginkgo biloba</i> | Ginkgo (female) |
| • <i>Maclura pomifera</i> | Osage-orange |
| • <i>Malus pumila</i> | Apple |
| • <i>Morus species</i> | Mulberry |
| • <i>Pinus strobus</i> | White Pine |
| • <i>Pinus nigra</i> | Austrian Pine |
| • <i>Populus species</i> | Poplar |
| • <i>Pyrus calleryana</i> 'Bradford' | Bradford Pear 'Bradford' |
| • <i>Quercus robur</i> 'Fastigiata' | Columnar English Oak |
| • <i>Robinia pseudoacacia</i> | Black Locust |
| • <i>Salix species</i> | Willow |
| • <i>Sorbus aucuparia</i> | European Mountain Ash |
| • <i>Ulmus pumila</i> | Siberian Elm |

Pine with Diplodia



Deer Resistant Trees

The following list was compiled through research of various resources and represents plants less commonly perused by deer. Few plants are completely deer-proof, but a number of species are undesirable enough to be left alone as long as other food is available. Drought and other situations that create a serious food shortage can cause deer to lose their inhibitions and eat otherwise less desirable plants -- including most of those listed below.

Scientific Name	Common Name
• <i>Acer species</i>	Maple
• <i>Amelanchier arborea</i>	Downy Serviceberry
• <i>Amelanchier canadensis</i>	Shadbush
• <i>Betula spp.</i>	Birch
• <i>Carpinus spp.</i>	Hornbeam
• <i>Cercis canadensis</i>	Redbud
• <i>Cornus spp</i>	Dogwood
• <i>Crataegus spp.</i>	Hawthorn
• <i>Fagus spp.</i>	Beech
• <i>Fraxinus spp</i>	Ash
• <i>Ginkgo biloba</i>	Ginkgo
• <i>Gleditsia triacanthos</i>	Honeylocust
• <i>Liquidambar styraciflua</i>	Sweetgum
• <i>Liriodendron tulipifera</i>	Tuliptree
• <i>Magnolia spp.</i>	Magnolia
• <i>Nyssa sylvatica</i>	Blackgum
• <i>Picea spp.</i>	Spruce
• <i>Platanus spp.</i>	Sycamore
• <i>Pseudotsuga menziesii</i>	Douglas Fir
• <i>Quercus spp.</i>	Oak
• <i>Salix spp.</i>	Willow
• <i>Taxodium distichum</i>	Baldcypress
• <i>Tilia spp.</i>	Linden
• <i>Ulmus spp.</i>	Elm

Deer Resistant Shrubs

Scientific Name

- *Aronia arbutifolia*
- *Berberis spp.*
- *Buxus spp.*
- *Chaenomeles spp.*
- *Chamaecyparis pisifera*
- *Clethra spp.*
- *Cotoneaster spp.*
- *Forsythia spp.*
- *Hamamelis spp.*
- *Hydrangea spp.*
- *Ilex glabra*
- *Juniperus spp.*
- *Kerria japonica*
- *Ligustrum spp.*
- *Lonicera*
- *Myrica pennsylvanica*
- *Pinus mugo*
- *Potentilla spp.*
- *Pyracantha spp.*
- *Spiraea spp.*
- *Syringa vulgaris*
- *Viburnum spp.*

Common Namen

- Red chokeberry
- Barberry
- Boxwood
- Quince
- Japanese Falsecypress
- Summersweet
- Cotoneaster
- Forsythia
- Witchhazel
- Hydrangea
- Holly
- Juniper
- Japanese Kerria
- Privet
- Honeysuckle
- Bayberry
- Mugo Pine
- Potentilla
- Firethorn
- Spirea
- Common Lilac
- Viburnum



Tree Preservation

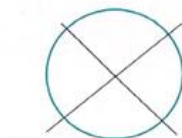
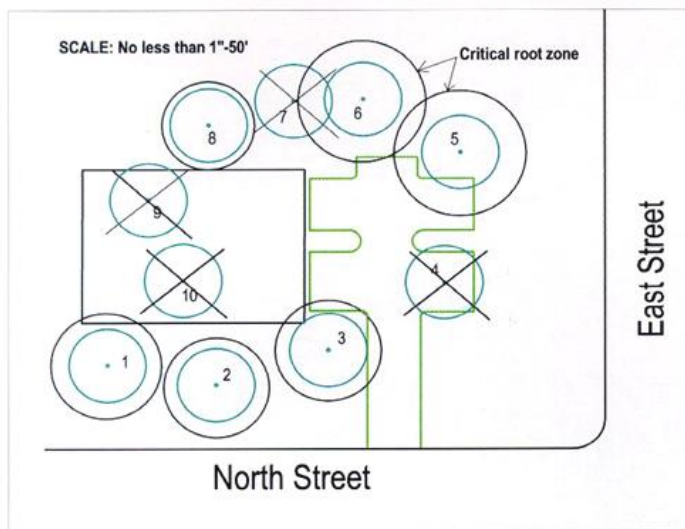
The following sample plans represent information required for submittal when working on a site containing protected trees. Please refer to the Dublin Landscape Code provisions for further information regarding tree preservation. Tree preservation measures start at the designing phase as buildings, parking areas and utilities are located in such a way as to minimize disturbance to existing trees.

When healthy protected trees are removed (trees 6" or greater DBH), they must be replaced on an inch-for-inch basis. For example, if a 22" Walnut tree is removed because it's in the middle of the building pad, 22" of replacement trees must be installed on the property, or a fee may be paid if planting would result in overcrowding as determined by City staff. The total number of tree replacement inches is a separate requirement from other planting requirements, including but not limited to, perimeter, interior, street trees, additional site plantings, etc. A tree removal permit must be filed with the Planning Division prior to the removal of any protected tree.

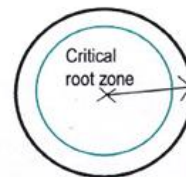
Tree protection fencing must be installed as per the approved plan. A request for a tree fencing inspection must be called into the Planning Division prior to any construction activity (614-410-4600). In most cases, the inspection will take place the same day. Tree fencing must remain intact until permission has been granted by the Landscape Inspector to remove or relocate any portion. Removal or relocation of the fence or any encroachment thereof, without permission, will be subject to fines and a stop work order may be issued until City staff has determined compliance with City Code.



Example Tree Survey



Tree to be removed



Tree to be protected

TREE SURVEY DATA

NUMBER	DCH*	SPECIES	CONDITION AND TREATMENT
1	12"	Hackberry	Good-No treatment needed
2	15"	Hackberry	Good-Selectively Prune
3	15"	Red oak	Good-Root prune if damage occurs
4	8"	Red oak	Remove and replace
5	8"	Hackberry	Good-Root prune if necessary, deadwood
6	15"	Hackberry	Fair-Selectively prune
7	15"	Elm	Poor-Remove, replacement not required
8	20"	Elm	Fair-Remove deadwood
9	30"	Hackberry	Good-Remove and replace
10	30"	Basswood	Poor-Remove, replacement not required

*DCH-Diameter at chest height

TREE REMOVAL DATA

38" to be replaced- Please refer to tree replacement plan.

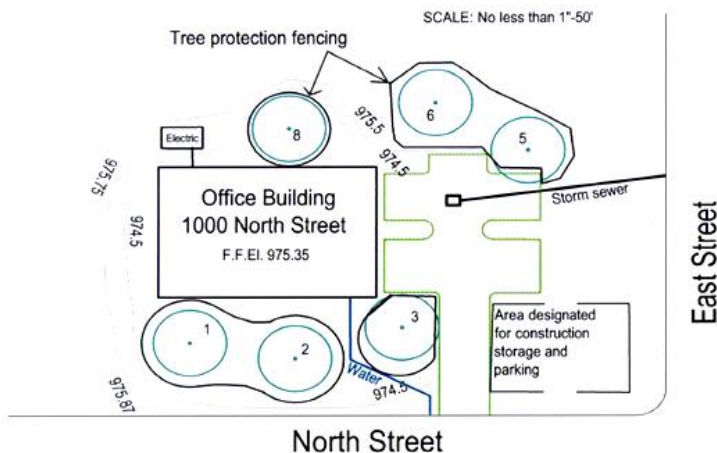
*Critical root zone is the area inscribed by an imaginary line on the ground beneath a tree having its center point at the center of the trunk and having a radius equal to one foot for every inch of diameter chest height.

*A tree removal permit must be obtained from the Planning Division prior to the removal of any trees.

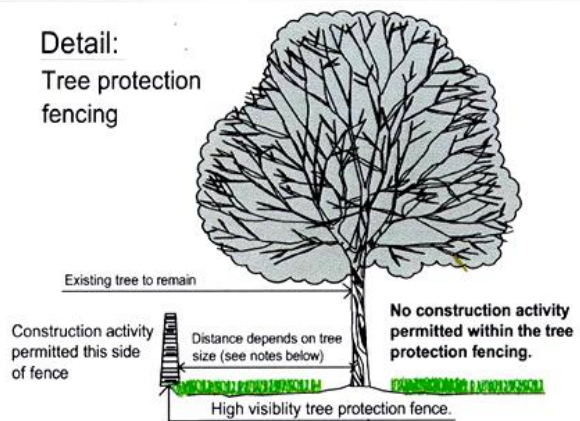
*Root pruning will be performed on any root damaged within the critical root zone as per the International Society of Arboriculture accepted standards.

*No work shall begin until plan approval and field verification by City staff.

Example Tree Preservation Plan

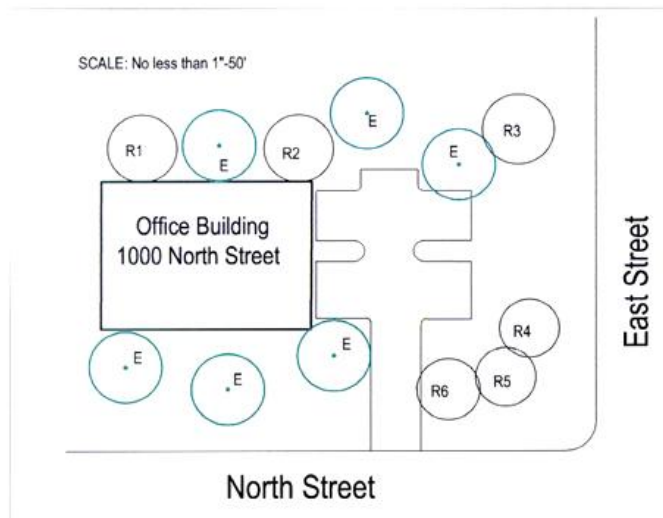


Detail: Tree protection fencing



- *All trees not specifically designated for removal shall be preserved. Trees to be preserved shall be protected with high visibility tree protection fencing placed at critical root zone, or 15 feet from the tree trunk, whichever is greater.
- *Owner shall be responsible for the construction, erection, and maintenance of protection fencing. Fencing must remain in place during all phases of construction.
- *Any change in placement of fencing must be approved by City staff.
- *It is unlawful to fail to abide by the tree preservation plan or tree removal permit.
- *Utility locations are as identified. Any field change that affects the location of the tree protection fencing will be reflected on revised plans and coordinated with the Division of Planning.

Example Tree Replacement Plan



TREE REPLACEMENT DATA

*Tree replacement species to be medium or large deciduous trees. Approval by City staff is required prior to installation.

	CALIPER	SPECIES
E		Existing trees
R1	4"	<i>Fraxinus pennsylvanica</i> Green ash
R2	4"	<i>Phellodendron amurense</i> Amur corktree
R3	3"	<i>Quercus rubra</i> Red Oak
R4	3"	<i>Cercidiphyllum japonicum</i> Katsuratree
R5	2.5"	<i>Cercidiphyllum japonicum</i> Katsuratree
R6	2.5"	<i>Cercidiphyllum japonicum</i> Katsuratree
Total	19"	

Fee paid in lieu of replacing remaining 19" = \$1900

*Full tree replacement would result in overcrowding of the site. A fee for the remaining 19 inches (38" removed-19" replaced on site) to be paid to the City of Dublin through the Planning Division.

*Tree replacements to be planted within one year of removal of the protected trees.

*Health of the replacement trees will be assessed by the landscape contractor within the one-year warranty period and replaced if deemed unhealthy.

*Replacement trees can not be used to fulfill landscape code requirements. Existing trees may be used to meet landscape code requirements.

*Trees and shrubs required in the Landscape Code are not shown on this plan.

Tree Removal Permit

A tree removal permit must be procured from the Planning Division prior to the removal of any protected tree (6" or greater DCH) as defined by Ordinance within the corporate limits of the City. Tree preservation plans, tree replacement plans, arborist reports and/or a site visit may be required prior to removal. City staff must approve and process the permit prior to removal. A permit can be downloaded from our website as well. <http://www.dublin.oh.us>

I. PROPERTY OWNER INFORMATION

Current Property Owner(s):	
Mailing Address:	
Daytime Telephone:	Fax:

II. CONTRACTOR INFORMATION

Contractor and/or Contact Person:	
Address:	
Daytime Telephone:	Fax:

III. PROPERTY INFORMATION

Property Name and Address:
Property Location:
Side of Street: (N, S, E, W)

IV. SCHEDULE FOR REMOVAL AND REASONS FOR TREE REMOVAL

Dates of removal:
Trees being removed:
Reasons for removal:

V. ATTACHMENTS

Tree Survey Tree Preservation Plan Tree Replacement Plan Report from Certified Arborist (if required)

Site visits to the property are necessary by City representatives in order to process this application. The Owner/Applicant hereby authorizes City representatives to visit the site in order to take pictures, measurements or partake in any other activity necessary.

Canada Geese Eradication

Over the years, the increase in population of Canada Geese on commercial properties in the city of Dublin has required many of us to initiate eradication methods to keep these birds from damaging properties. According to their website, the Ohio Department of Natural Resources estimates a 500% increase in the population since 1979.

Techniques deployed for goose eradication can include physical abuse. These migratory birds are protected by the U.S. Fish and Wildlife Service meaning it is a violation to harm or destroy and migratory bird, their nest or their eggs outside of regular hunting seasons. A permit to do so must be obtained from the ODNR, and there is more information on their website, <http://www.dnr.state.oh.us>. Keep in mind, geese can become aggressive particularly when protecting their nesting locations, their young gosling or their breeding mates. Some of the information below can be found at the ODNR website.

- Using noisemakers
- Installing fencing around or across ponds
- Leaving a 20-30 foot barrier strip of tall grass around ponds
- Using reflective materials at goose-eye level
- Discourage people from feeding the geese
- Removing any potential nesting material
- Using Border Collies to chase away the geese
- Using Swan and Mallard decoys to discourage goose habitation
- Application of a biodegradable spray to the turf to give it an unpleasant taste

Prior to the use of any of these techniques, please contact the City of Dublin Planning Division to ensure compliance with applicable codes. (614-410-4600)